Claims

1. A hydraulically actuated quick coupling device, comprising:

an attachment frame including a centerline;

a latch member operatively associated with the attachment frame and movable between a disengaged position and an engaged position;

a link having first and second end portions, the first end portion of the link being connected to the latch member;

a pivot member having first and second end portions and a central portion, the first end portion pivotally connected on the attachment frame and the second end portion pivotally connected on the second end portion of the link; and

a cylinder having head and rod end portions, the head end portion being connected to the attachment frame and the rod end portion being connected to the central portion of the pivot member, the cylinder being operable for moving the latch member between the disengaged and engaged positions.

2. The hydraulically actuated quick coupling device of claim 1, wherein when the latch member is in the engaged position the connection between the pivot member and the attachment frame defines a first position and the connection between the pivot member and the cylinder defines a second position and the connection between the cylinder and

the attachment frame defines a third position, the first and second position define a first line therethrough and the second and third position define a second line therethrough with the second line being positioned substantially at a ninety degree angle from the first line.

3. The hydraulically actuated quick coupling device of claim 1, including a supply of hydraulic fluid and a circuit for pressurizing the hydraulic fluid wherein the cylinder is connected with the supply of hydraulic fluid so that upon pressurization thereof the cylinder is actuated for moving the latch member.

4. The hydraulically actuated quick coupling device of claim 1, wherein each of the cylinder and link are angularly positioned in relation to the centerline of the attachment frame.

5. The hydraulically actuated quick coupling device of claim 4, wherein the angular position of the cylinder and link are each less than ninety degrees when the latch member is in the disengaged position.

6. The hydraulically actuated quick coupling device of claim 4, wherein the angular position of the cylinder is less than ninety degrees and the link is approximately ninety degrees when the

latch member is in the engaged position.

7. The hydraulically actuated quick coupling device of claim 1, wherein the latch member is slidingly disposed within the attachment frame and is angular positioned approximately ninety degrees from the centerline of the attachment frame.

8. The hydraulically actuated quick coupling device of claim 1, wherein the second end portion of the link defines a slot therethrough in which the second end portion of the pivot member is connected to allow for transitional movement therein.

9. The hydraulically actuated quick coupling device of claim 3, wherein the circuit includes a means for diverting the supply of hydraulic fluid from a portion of the circuit to the cylinder.

10. The hydraulically actuated quick coupling device of claim 9, wherein the portion of the circuit from which the supply of hydraulic fluid is diverted controls a function other than the actuation of the cylinder.

11. The hydraulically actuated quick coupling device of claim 3, including:

a second latch member operatively associated with the attachment frame and spaced from the first latch member, the second latch member being movable

between a disengaged position and an engaged position;

a second link having first and second end portions and being spaced from the first link, the first end portion of the second link being connected to the second latch member;

a second pivot member spaced from the first pivot member and having first and second end portions and a central portion, the first end portion of the second pivot member pivotally connected on the attachment frame and the second end portion of the second pivot member pivotally connected on the second end portion of the second link; and

a second cylinder having head and rod end portions, the head end portion of the second cylinder being connected to the attachment frame and the rod end portion of the second cylinder being connected to the central portion of the second pivot member, the second cylinder being connected with the supply of hydraulic fluid so that upon pressurization thereof the second cylinder is actuated for moving the second latch member between the disengaged and engaged positions.

12. The hydraulically actuated quick coupling device of claim 11, wherein the actuation of the first and second cylinders is contemporaneous.

13. The hydraulically actuated quick coupling device of claim 12, wherein each of the second cylinder and link are angularly positioned in

relation to the centerline of the attachment frame.

14. The hydraulically actuated quick coupling device of claim 13, wherein the angular position of the second cylinder and link are each less than ninety degrees.

15. The hydraulically actuated quick coupling device of claim 13, wherein the angular position of the second cylinder is less than ninety degrees and the second link is approximately ninety degrees when the latch member is in the engaged position.

16. The hydraulically actuated quick coupling device of claim 11, wherein the circuit includes a means for diverting the supply of hydraulic fluid from a portion of the circuit to the first and second cylinders.

17. The hydraulically actuated quick coupling device of claim 16, wherein the portion of the circuit from which the supply of hydraulic fluid is diverted controls a function other than the actuation of the cylinder.

18. The hydraulically actuated quick coupling device of claim 11, wherein the first and second latch members are slidingly disposed within the attachment frame and each are angular positioned

substantially ninety degrees from the centerline of the attachment frame.

19. A work machine having a frame, a loader arm connected to the frame and extending forwardly therefrom, and an implement, the work machine comprising:

an attachment frame having a centerline and being connectable to the loader arm;

a latch member operatively associated with the attachment frame and movable between a disengaged position and an engaged position;

a link having first and second end portions, the first end portion of the link being connected to the latch member;

a pivot member having first and second end portions and a central portion, the first end portion pivotally connected on the attachment frame and the second end portion pivotally connected on the second end portion of the link;

a supply of hydraulic fluid;

a circuit for pressurizing the hydraulic fluid; and

a cylinder having head and rod end portions, the head end portion being connected to the attachment frame and the rod end portion being connected to the central portion of the pivot member, the cylinder being connected with the supply of hydraulic fluid so that upon pressurization thereof the cylinder is actuated for moving the latch member between the

disengaged and engaged positions to respectively detach and attach the implement to the work machine.

20. The work machine of claim 19, including:

a second latch member operatively associated with the attachment frame and spaced from the first latch member, the second latch member being movable between a disengaged position and an engaged position;

a second link having first and second end portions spaced from the first link, the first end portion of the second link being connected to the second latch member;

a second pivot member spaced from the first pivot member and having first and second end portions and a central portion, the first end portion of the second pivot member pivotally connected on the attachment frame and the second end portion of the second pivot member pivotally connected on the second end portion of the second link; and

a second cylinder having head and rod end portions, the head end portion of the second cylinder being connected to the attachment frame and the rod end portion of the second cylinder being connected to the central portion of the second pivot member, the second cylinder being connected with the supply of hydraulic fluid so that upon pressurization thereof the second cylinder is actuated for moving the second latch member between the disengaged and engaged positions.

21. The work machine claim 20, wherein the actuation of the first and second cylinders is contemporaneous.

22. The work machine of claim 21, wherein each of the first and second cylinder and link are angularly positioned in relation to the centerline of the attachment frame.

23. The work machine of claim 22, wherein the angular position of the first and second cylinder and link are each less than ninety degrees when the latch member is in the disengaged position.

24. The work machine of claim 22, wherein the angular position of the first and second cylinder is less than ninety degrees and the first and second link is approximately ninety degrees when the latch member is in the engaged position.

25. The work machine of claim 19, wherein the circuit includes a means for diverting the supply of hydraulic fluid from a portion of the circuit to the first and second cylinders.

26. The work machine of claim 25, wherein the portion of the circuit from which the supply of hydraulic fluid is diverted controls a function other than the actuation of the cylinder.

27. The work machine of claim 19, wherein the first and second latch members are slidingly disposed within the attachment frame and each are angular positioned substantially ninety degrees from the centerline of the attachment frame.